

Fig. 7 is a flow chart illustrating the process of building a calculator in accordance with a described embodiment of the present invention. Initially, a client system 520 receives the number of rows and columns to build a particular calculator, in element 702. For instance, as illustrated in reference with Fig. 4, an example calculator has 6 columns and 24 rows. A two-dimensional array of cell elements is built. In element 704, each cell is initialized and a dynamic HTML is specified for each cell. This step includes obtaining information about a particular cell from a Data Array file 502. This information includes, but is not limited to, cell dependency, formatting, content, and editability. Thus, as illustrated in Fig. 4, cell A3 which includes the text "HOW MANY TOTAL GUESTS ARE YOU HAVING?" is described by the following parameters, as shown in Table 1: {ENTRY:'HOW MANY TOTAL GUESTS ARE YOU HAVING?',LOCKED:'FALSE',VIEWSIZE:'9PT',FORECOLOR:'NAVY',VIEWFAMILY:'VERDANA',_WRAPTEXT:'TRUE',_TEXTALIGN:'LEFT',M_ROW:3,M_COL:1,I_NR:'HOW MANY TOTAL GUESTS ARE YOU HAVING?'}. According to these parameters, cell A3 is the intersection of a third row and a first column and is referenced with a Column # Row # notation A3. Cell A3 is an editable cell because the editability flag is set to "FALSE" (the calculator was so-designed by its designer/creator), the text in the cell is aligned to the left, the color of the cell is navy, and the size of the cell is 9pt.

Replace the first paragraph with the following paragraph:

Once dynamic HTML is specified for each cell, the dependency tree is built, in step 705. The dependency tree is part of the Data Array 502. Any calculator has at least two types of cells: the ones that depend on a particular cell and the ones that a particular cell

B3

depends on. Some cells in the Data Array 502 contain the field "i_rt" and others contain the field "i_tb". The fields are lists of other cells that a given cell depends on (i_rt) and a list of cells that depend on this cell (i_tb). "I_tb" stands for "initialize the referred to by cell" and "i_rt" stands for "initialize refers to cell." In the example calculator illustrated in Fig. 3, cell B13 (111) is a dependent cell. The following is the list of other cells that cell B13 depends on, as shown in Table 1: **I_RT:'[E[7][2],E[3][2],E[5][2]]'**. Accordingly, cell B13, which is the intersection of row 13 and column 2, depends on cells B7 (110), B3 (106), and B5 (108), where cell B7 displays the type of dinner the user selected, cell B3 displays the number of guests the user is expecting, and cell B5 displays the number of vegetarians among the guests. Thus, if cell B7 contains "Traditional," a value of 12.5 is displayed in cell B13 (111), (as shown in Fig. 3). This value is derived from the formula, which is described in the Data Array 502: **1.25*(B3-B5)**. If B3=12 and B5=2, the value displayed in cell B13 is 12.5. If cell B7 contains "Economy," a value of 20 is displayed in cell B13 (not shown). This value is derived from the formula described in the Data Array 502 **(B3-B5)*2**. If B3=12 and B5=2, the value displayed in cell B13 is 20.

Respectfully submitted,
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